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New OARDC

1982
CUCUMBER CULTIVAR EVALUATION TRIALS

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PICKLING CUCUMBER CULTIVAR EVALUATION TRIALS -1982

The pickling cucumber cultivar evaluation trials were conducted at the OARDC Vegetable Crops Branch near Fremont. Nineteen cultivars or lines were evaluated in the replicated trial and twenty-five cultivars or lines were evaluated in the non-replicated observational trial.

Cultural Information

The soil is classed as a sandy loam. A broadcast application of 10-20-20 at 725 lbs/A was made and incorporated prior to planting . The plants were seeded on May 18 using a Stan-Hay seeder which seeds 4 to 5 seeds per ft. of row. Plants were thinned to 3 single plants per foot of row at the first true leaf. Rows were 30 ft. long on 30-in. centers. Alanap at 4 lb/A and Prefar at 6 lb/A were incorporated before planting. One active hive of honeybees was placed in the plot area when the plants started to bloom. All other cultural practices during the growing season were according to standard recommendations. Weed control was excellent and no serious problems with insects or diseases developed during the season.

The plots were harvested by hand and the cucumbers were graded and sized using a commercial sizer. Fruits were classed into the following sizes and values placed on each size according to the following values:

Size	$/Ton* PCIC	OHIO
1. Less than 1 1/6 in.	120	240
2. 1 1/6 to 1 1/2 in.	60	120
3. 1 1/2 to 2 in.	40	60
4. 2 to 2 1/4 in.	20	10

Harvest started on July 9 and continued through August 2.

Growing conditions were generally good throughout the season with near normal temperatures, but above normal rainfall in May. Rainfall from planting on May 18 to the end of May was 5.10 in; June rainfall was 4.73 in.; July rainfall was 2.94 in.; rainfall to August 2 was 0.05 in. rain. The plots were irrigated two additional times; on May 18, 1/2 in. was added and on May 19, 3/4 in. of water was added.

Seed companies and others who provided the seed for the trials included: Dessert Seed Co., Brooks OR: Joseph Harris Co., Mountain View, CA; A.L. Castle, Inc., Morgan Hill, CA; Musser Seed Co., Inc., Twin Falls, IA; Agrigenetics Corp., Hollister, CA; Department of Horticulture, University of Wisconsin, Madison, WI; Asgrow Seed Co., Kalamazoo, MI; Northrup, King & Co., Gilroy, CA; Ferry-Morse Seed Co., Mountain View, CA; Department of Horticulture, South Carolina State University, Clemson, SC; Sluis & Groot of America, Inc., Salinas, CA; and Department of Plant Breeding, Cornell University, Ithaca, NY.

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* PCIC values established by the Pickling Cucumber Improvement Committee of Pickle Packers International. Ohio values based upon estimated average prices in 1975-79 period.

All publications of the Ohio Agricultural Research & Development Center are available to all on a nondiscriminatory basis without regard to race, color, national origin, sex, or religious affiliation.

H-470;1/83-250

TABLE 1. First harvest yield from Replicated Trial of Pickling Cucumber Cultivars, 1982.

Line	Source	Lot No.	Size	Tons/A 1	2	3	4	Total	Culls
Dexp-48	Dessert Seed	23-266-X01W		.08	.18	.03	.00	.29	.07
Carolina	Dessert Seed	23-204-X14W		.07	1.04	.45	.00	1.56	.25
4J73	Harris	PW-1000		.11	1.30	.85	.00	2.26	.29
4JC2	Harris	77627-4463B		.12	1.60	.64	.00	2.37	.25
Castlehy-2012	A.L. Castle	4407-17		.43	2.14	.16	.00	2.73	.48
Regal	Harris	446-4461B		.15	1.35	.35	.00	1.85	.21
HYB-79-1197	Musser	608-05-101		.15	1.30	.37	.00	1.82	.15
AVX-0178	Agrigenetics Corp.			.05	.32	.00	.00	.37	.10
W-208	Univ. Wisconsin	1606X2091		.13	.50	.03	.00	.66	.24
XPH-1368	Asgrow	RBY-731		.27	.71	.03	.00	1.01	.09
NKX-1000	Northrup-King			.07	.25	.00	.00	.32	.08
NKX-1002	Northrup-King			.10	.91	.16	.00	1.17	.18
FX-4153	Ferry-Morse			.12	.45	.04	.00	.61	.07
FX-4447	Ferry-Morse			.10	.50	.00	.00	.60	.11
Calypso	Ferry-Morse			.11	.65	.09	.00	.85	.13
Flurry	Asgrow	VGY-9151		.20	1.47	.22	.00	1.89	.24
Tamor	Asgrow	VGY-9065		.12	.78	.02	.00	.92	.19
XPH-1369	Asgrow	VGY-9136		.12	.27	.00	.00	.39	.05
SC-144	Univ. S.Carolina			.00	.00	.00	.00	.00	.02
		LSD .05		.22	.40	.64	---	.77	.31

TABLE 2. Yield from Replicated Trial of Pickling Cucumber Cultivars, 1982.

Line	Yield of 8 Harvest Dates - Tons/A									Sex Expression %*			
	7/9	7/12	7/15	7/19	7/22	7/26	7/29	8/2	Total	GY	PF	PM	M
Dexp-48	.29	.92	2.25	4.94	1.24	4.56	2.38	3.49	20.07	47.5	22.5	5.0	25.0
Carolina	1.56	1.19	2.55	4.73	1.44	4.17	2.34	2.41	18.83	60.0	32.5	2.5	5.0
4J73	2.26	.93	3.71	5.92	1.37	4.56	1.91	3.24	21.64	87.5	12.5	0.0	0.0
4JC2	2.37	1.41	3.28	5.78	1.80	4.77	2.48	2.84	22.36	65.0	27.5	2.5	5.0
Castleby-2012	2.73	1.04	4.95	6.30	1.74	3.95	2.01	2.16	24.88	57.5	32.5	10.0	0.0
Regal	1.85	1.16	3.13	5.29	1.24	4.42	2.08	2.88	22.05	47.5	47.5	0.0	5.0
HYB-29-1197	1.82	.88	3.69	5.10	1.43	4.14	1.87	2.49	21.42	67.5	32.5	0.0	0.0
AVX-9178	.37	.58	2.47	5.74	.80	4.26	2.50	2.75	19.47	40.0	55.0	5.0	0.0
W-208	.66	.76	2.82	6.15	1.10	4.79	2.84	3.19	22.31	100.0	00.0	0.0	0.0
XPH-1368	1.01	1.20	3.61	6.58	.92	4.01	1.60	2.50	21.43	35.0	55.0	5.0	5.0
NRX-1000	.32	.73	2.62	5.37	1.18	5.36	2.41	3.58	21.57	77.5	15.0	5.0	2.5
NRX-1002	1.17	.70	2.64	5.70	1.26	4.04	2.04	2.39	19.77	72.5	20.0	5.0	2.5
FX-4153	.61	1.22	2.61	5.91	1.26	4.83	2.46	2.79	21.69	77.5	20.0	0.0	2.5
FX-4147	.60	1.41	2.94	4.58	.92	4.48	2.05	2.85	19.83	65.0	27.5	7.5	0.0
Calypso	.85	1.40	2.80	6.40	1.33	4.65	2.21	3.00	22.64	75.0	15.0	0.0	10.0
Flurry	1.89	1.42	3.19	4.88	1.68	3.63	1.90	1.63	20.22	57.5	25.0	5.0	12.5
Tamar	.92	1.22	3.08	5.99	1.04	4.86	2.05	2.84	22.00	62.5	10.0	10.0	17.5
XPH-1369	.39	.83	2.84	6.15	1.11	5.49	2.53	3.35	22.69	42.5	37.5	12.5	7.5
SC144	.00	.54	1.35	4.75	1.10	3.62	1.41	2.54	15.31	100.0	00.0	00.0	00.0
LSD .05					.77				2.44	21	19	--	10

* Sex expression data taken on June 28 from a sample of 10 plants per row:
GY = All flowers were pistillate (female) on first 6 nodes
PF = Less than 3 staminate (male) flowers on first 6 nodes
PM = 3 or more staminate flowers on first 6 nodes
M = All staminate flowers on first 6 nodes

TABLE 3. Values of harvested cucumbers from Replicated Trial based on PCIC values, 1982.

Lines	Values of 8 harvest dates - $/A								
	7/9	7/12	7/15	7/19	7/22	7/26	7/29	8/2	Total
Deep-18	22	61	174	243	89	248	165	183	1185
Carolina	90	84	196	227	122	226	165	140	1250
4[illegible]5	126	72	280	279	107	257	133	167	1421
4[illegible]2	136	96	234	278	141	259	172	153	1469
Castleby-2012	186	84	341	315	138	228	146	134	1572
Pepsi	113	86	225	263	104	257	143	164	1355
[illegible]-1197	110	76	248	242	130	239	140	143	1328
[illegible]-2178	25	42	168	251	53	240	152	144	1075
[illegible]	47	66	227	291	84	265	206	215	1401
[illegible]	76	95	247	314	71	218	118	142	1281
[illegible]	24	63	205	269	83	303	185	212	1344
[illegible]	73	55	186	254	104	220	144	141	1177
PX-4153	43	95	194	277	107	253	165	165	1299
PX-4147	42	113	202	227	72	245	142	164	1207
Calypso	56	119	203	292	109	258	165	180	1382
Flurry	121	111	228	245	123	200	133	99	1260
[illegible]	62	92	233	293	82	266	148	158	1334
[illegible]	30	77	197	316	94	313	170	198	1395
SC-114	0	46	114	227	105	209	114	150	965
LSD .05					39				146

TABLE 4. Values of harvested cucumbers from Replicated Trials based on estimated Ohio values, 1982.

Line	Value of 8 harvest dates - $/A								
	7/9	7/12	7/15	7/19	7/22	7/26	7/29	8/2	Total
Dexp-48	43	115	341	423	168	452	315	325	2182
Carolina	170	158	386	389	239	408	315	259	2324
4J73	234	140	547	470	205	470	256	294	2616
4JC2	260	183	459	474	273	468	331	278	2726
Castlehy-2012	370	165	661	551	265	425	279	251	2967
Regal	219	164	442	456	203	477	272	299	2532
HYB-79-1197	214	152	478	414	257	440	272	264	2491
AXV-9178	50	82	325	405	97	444	279	251	1933
W-208	93	132	445	492	159	483	392	414	2610
XPH-1368	151	185	478	525	138	395	226	261	2359
NEX-1980	48	125	405	467	155	557	356	391	2504
NEX-1982	144	106	363	414	199	399	275	260	2160
FX-4155	86	188	380	467	208	450	309	304	2392
FX-4447	84	222	387	395	137	444	265	299	2233
Calypso	110	233	395	483	211	473	319	335	2559
Flurry	237	216	446	430	237	363	254	185	2369
Tamor	123	176	462	501	156	482	284	287	2471
XPH-1369	60	153	382	555	182	582	318	365	2597
SC-144	00	55	138	49	159	108	130	95	734
LSD .05					72				285

TABLE 5. First harvest yield from Observation Trial of Pickling Cucumbers, 1982.

Line	Source	Lot No.	Size:	Tons/A					Culls
				1	2	3	4		
SG-858	Sluis & Groot			.17	.14	.00	.00	.31	.06
SG-857	Sluis & Groot			.32	.84	.09	.00	1.25	.09
9R4G	Harris	PW-1130		.03	.32	.00	.00	.35	.05
4J4C	Harris	PW-1140		.12	.12	.00	.00	.24	.03
CD4G	Harris	PW-1180		.20	.93	.00	.00	1.13	.14
CD9C	Harris	4049		.06	.90	.38	.00	1.34	.43
CDM11	Harris	PW-6069		.46	2.00	.09	.00	2.55	.26
Castlehy-2013	A.L. Castle	4074-11		.17	.52	.23	.00	.92	.09
Castlehy-2014	A.L. Castle	4080-32		.17	.90	.26	.00	1.33	.11
Dexp-139	Dessert	81C516R1		.00	.55	.75	.00	1.30	.20
78-515	Cornell Univ.	80-189		.03	.60	.00	.00	.63	.06
W-201	Univ.Wisconsin	1379x2091		.17	1.10	.29	.00	1.56	.29
W-202	Univ.Wisconsin	1701x2091		.12	.46	.00	.00	.58	.09
W-203	Univ.Wisconsin	1934x2091		.03	.14	.00	.00	.17	.03
W-204	Univ.Wisconsin	2238x2091		.06	.55	.00	.00	.61	.20
W-205	Univ.Wisconsin	1983x2091		.09	.35	.09	.00	.53	.17
NKX-1901	Northrup-King			.09	.06	.00	.00	.15	.00
NKX-1905	Northrup-King			.00	.00	.00	.00	.00	.00
NKX-2000	Northrup-King			.26	.41	.00	.00	.67	.06
NKX-2050	Northrup-King			.06	.00	.00	.00	.06	.03
FX-4318	Ferry-Morse			.12	.32	.00	.00	.44	.12
FX-4446	Ferry-Morse			.06	.32	.00	.00	.38	.37
Pickmaster	Northrup-King	37616-20300		.14	.70	.09	.00	.93	.29
EXP-823	Northrup-King	38031-70200		.12	.46	.00	.00	.58	.12
NKX-2025	Northrup-King	38031-10600		.03	.12	.00	.00	.15	.06

TABLE 6. Yield from Observation Trial of Pickling Cucumbers, 1982.

Line	Yield of 7 harvest dates - Tons/A								Sex Expression % *			
	7/9	7/12	7/15	7/19	7/22	7/26	7/29	Total	GY	PF	PM	M
SG-858	.31	.96	2.12	7.17	.73	4.36	2.00	17.65	100	00	00	00
SG-857	1.25	1.83	2.55	6.39	1.51	5.28	2.55	21.36	50	40	00	10
9R-4G	.35	1.60	1.89	5.28	1.25	4.09	1.97	16.43	100	00	00	00
4J4C	.24	1.07	2.26	7.69	1.19	4.50	1.94	18.89	100	00	00	00
CD4G	1.13	1.10	2.55	5.57	1.10	4.99	1.65	18.09	90	10	00	00
CD9C	1.34	1.07	1.77	7.32	.81	3.98	1.97	18.26	70	30	00	00
CDM11	2.55	2.15	3.45	4.70	.90	4.32	1.39	19.46	30	50	20	00
Castlehy-2013	.92	1.33	2.44	5.80	1.33	4.62	1.97	18.41	60	30	10	00
Castlehy-2014	1.33	2.15	2.53	6.36	1.54	3.34	1.39	18.64	70	30	00	00
Dexp-139	1.30	1.63	2.38	5.08	1.77	4.67	2.06	18.89	80	20	00	00
78-515	.63	1.39	1.33	3.16	1.13	2.35	1.25	11.24	00	20	20	60
W-201	1.56	1.07	2.84	6.24	1.28	5.72	2.64	21.35	100	00	00	00
W-202	.58	.35	2.47	5.57	1.07	3.83	2.64	16.51	100	00	00	00
W-203	.17	.23	1.74	5.92	1.02	6.30	3.40	18.78	90	00	10	00
W-204	.61	.70	2.09	4.76	.87	3.22	2.64	14.89	100	00	00	00
W-205	.53	.29	2.87	6.24	.93	4.53	1.97	17.36	100	00	00	00
NKX-1901	.15	.75	1.60	7.32	.75	4.47	3.08	18.12	80	20	00	00
NKX-1905	.00	.26	1.02	2.64	.29	2.35	1.33	7.89	80	20	00	00
NKX-2000	.67	.26	1.94	6.45	1.04	4.30	3.05	17.71	100	00	00	00
NKX-2050	.06	.20	.99	3.80	.70	1.77	2.67	10.19	00	00	70	30
FX-4138	.44	.90	2.29	5.08	1.22	4.01	1.48	15.42	50	40	10	00
FX-4446	.38	.58	2.58	5.84	1.10	4.41	2.50	17.39	90	10	00	00
Pickmaster	.93	.58	2.21	5.60	.96	4.50	2.70	17.48	30	60	10	00
Exp-823	.58	.75	2.58	6.45	1.13	4.65	2.09	18.23	60	30	00	10
NKX-2025	.15	.49	1.89	6.01	1.28	4.88	2.79	17.49	100	00	00	00

* Sex expression data taken on June 28 from a sample of 10 plants per row:
GY = All flowers were pistillate (female) on first 6 nodes
PF = Less than 3 staminate (male) flowers on first 6 nodes
PM = 3 or more staminate flowers on first 6 nodes
M = All staminate flowers on first 6 nodes

TABLE 7. Value of harvested cucumbers from Observational Trial based on PCIC values, 1982.

Line	Values from 7 harvest dates $/A							
	7/9	7/12	7/15	7/19	7/22	7/26	7/29	Total
SG-858	29	93	133	329	70	230	140	1024
SG-857	92	115	204	323	99	282	173	1115
9R-4G	23	112	164	282	97	239	145	1062
4J4C	21	89	165	368	111	254	158	1166
CD4G	80	91	215	316	108	296	143	1249
CD9C	76	81	123	338	87	246	151	1102
CDM11	179	161	253	253	91	222	116	1275
Castlehy-2013	61	106	189	314	102	281	129	1182
Castlehy-2014	85	175	172	280	146	210	113	1181
Dexp-139	63	103	214	266	165	278	145	1234
78-515	40	82	122	163	112	128	95	742
W-201	99	91	212	312	139	310	178	1341
W-202	42	28	188	302	95	218	192	1065
W-203	12	15	126	302	72	354	227	1108
W-204	40	43	159	262	85	172	202	963
W-205	35	21	219	336	92	246	183	1132
NKX-1901	14	46	124	409	80	277	221	1171
NKX-1905	00	19	69	120	28	104	95	435
NKX-2000	56	21	156	308	93	245	196	1075
NKX-2050	7	21	77	168	57	115	134	579
FX-4138	33	77	185	260	82	236	118	991
FX-4446	26	52	202	278	110	236	193	1097
Pickmaster	63	45	167	292	99	262	232	1160
Exp-823	42	65	221	323	118	271	168	1208
NKX-2025	10	32	154	282	101	269	215	1063

TABLE 8. Value of harvested cucumbers from Observational Trial based on Ohio values, 1982.

Line	Values from 7 harvest dates $/A							
	7/9	7/12	7/15	7/19	7/22	7/26	7/29	Total
SG-858	59	185	256	550	139	422	266	1877
SG-857	183	219	404	562	190	512	324	2394
9R-4G	45	214	327	509	190	446	277	2008
4J4C	42	176	326	623	221	467	310	2165
CD4G	160	178	428	584	214	556	284	2404
CD9C	145	157	244	566	174	469	296	2051
CDM11	357	312	502	462	181	388	228	2430
Castlehy-2013	118	211	371	559	190	535	251	2235
Castlehy-2014	165	343	340	456	291	406	221	2222
Dexp-139	111	191	429	481	326	521	275	2334
78-515	80	148	242	291	221	233	183	1398
W-201	192	181	415	545	279	564	339	2515
W-202	84	56	366	548	183	402	368	2007
W-203	24	28	242	531	132	657	420	2034
W-204	80	82	310	474	171	314	387	1818
W-205	70	40	429	603	179	446	364	2131
NKX-1901	28	85	244	725	160	533	422	2197
NKX-1905	00	36	132	199	56	170	181	774
NKX-2000	111	40	310	520	178	455	368	1982
NKX-2050	14	42	153	275	113	223	227	1047
FX-4138	66	151	369	458	155	444	235	1878
FX-4446	52	104	399	475	219	422	366	2037
Pickmaster	124	89	326	521	195	491	455	2201
Exp-823	84	127	441	561	257	505	329	2284
NKX-2025	21	61	307	476	197	493	418	1973

TABLE 9. Observations on fruit characteristics from Replicated Trial of Pickling Cucumbers, 1982

Line	Fruit	L/D*	Spine color**	Seed cavity size***
Dexp-48	Light green color, some warty, good uniformity, good length, good stem & flower ends	2.79	W	S
Carolina	Medium green color, some warty, good uniformity, good length, some restricted stem ends, good flower ends	2.81	W	S
4J73	Medium green color, warty, fair uniformity, fair length, some restricted stem ends, good flower ends	2.65	W	-
4JC2	Medium green color, some warty, good uniformity, good length, good stem & flower ends	2.83	W	S
Castlehy-2012	Green color, few warty, fair uniformity, some crooks, good stem and flower ends	2.65	W	-
Regal	Light green color, some warty, good uniformity, good stem & flower ends	3.14	W	-
HYB79-1197	Light green color, warty, fair uniformity, some curved ends, fair stem ends	2.92	W	S
AVX-9178	Light green color, warty, poor uniformity, good stem ends	2.70	W	S
W-208	Light green color, warty, poor uniformity, some crooks, good stem ends, some flower ends restricted	2.95	W	-
XPH-1368	Light green color, warty, fair uniformity, good stem end, some restricted flower ends	3.00	W	S
NKX-1900	Light green color, warty, good uniformity, fair length, good stem & flower ends	2.98	W	-
NKX-1902	Medium green color, some warty, fair uniformity, good stem & flower ends	2.71	W	S
FX-4153	Medium green color, warty, very poor uniformity, curved fruit, good stem ends, fair flower ends	2.89	W	-
FX-4447	Green color, some warty, good uniformity,good stem & flower ends	2.88	W	S
Calypso	Medium green color, warty, good uniformity, good stem & flower ends	3.01	W	-
Flurry	Light green color, some warty, poor uniformity, good stem ends, restricted flower ends	3.01	W	-
Tamor	Medium green color, some warty, good uniformity, good stem & flower ends	3.06	W	-
XPH-1369	Medium green color, some warty, good uniformity, good stem ends, some restricted flower ends	2.92	W	S
SC-144	Green color, some warty, good uniformity, good stem ends, some restricted flower ends	2.87	W	-

* L/D ratio - taken from fruit sample of size 2 fruits
** Spine color - W = white; B = black
*** Seed cavity compared to Carolina = S = same size; + = larger; - smaller

TABLE 10. Observations on fruit characteristics from Observation Trial of Pickling Cucumbers, 1982.

Lines	Fruit	L/D*	Spine color**	Seed cavity size***
SG-858	Light green color, warty, fair uniformity, poor stem & flower ends	2.92	W	-
SG-857	Medium green color, some warty, good uniformity, good stem & flower ends	2.76	W	S
9R4G	Light green color, warty, fair uniformity, restricted stem & flower ends	3.01	W	S
4J4C	Light green color, warty, good uniformity, good stem & flower ends	2.78	W	S
CD4G	Medium green color, some warty, good uniformity, good stem & flower ends	2.97	W	S
CD0C	Medium green color, some warty, good uniformity, good stem & flower ends	3.18	W	S
CDM11	Light green color, some warty, fair uniformity, good stem & flower ends	3.33	W	+
Castlehy-2013	Medium green color, some warty, fair uniformity, good stem & flower ends	2.91	W	S
Castlehy-2014	Medium green color, warty, fair uniformity, good stem & flower ends	2.81	W	S
Dexp-139	Light green color, warty, fair uniformity, good stem & flower ends	3.09	W	S
78-515	Light green color, warty, poor uniformity, restricted stem & flower ends	2.85	W	-
W-201	Light green color, warty, fair uniformity, good stem ends, restricted flower ends	2.89	W	-
W-202	Light green color, warty, fair uniformity, good stem ends, restricted flower ends	3.20	W	S
W-203	Light green color, good uniformity, good stem ends, restricted flower ends	3.00	W	-
W-204	Light green color, warty, good uniformity, good stem ends, restricted flower ends	2.95	W	-
W-205	Medium green color, some warty, fair uniformity, good stem & flower ends	2.79	W	S
NKX-1901	Green color, some warty, good uniformity, good stem & flower ends	2.94	W	-
NKX-1905	Green color, warty, good uniformity, good stem & flower ends	3.04	W	S
NKX-2000	Light green color, some warty, good uniformity, good stem & flower ends	2.74	W	S
NKX-2050	Green color, some warty, good uniformity, good stem & flower ends	2.78	W	S
FX-4138	Green color, some warty, good uniformity, good stem & flower ends	3.20	W	S
FX-4446	Green color, warty, poor uniformity, good stem end, restricted flower ends	3.21	W	S
Pickmaster	Light green color, warty, good uniformity, good stem & flower ends	3.10	W	S
Exp-823	Light green color, warty, poor uniformity, good stem end, restricted flower ends	2.90	W	S
NKS-2025	Green color, some warty, good uniformity, good stem & flower ends	2.88	W	S

* L/D ratio - taken from fruit sample of size 2 fruits
** Spine color - W = white; B = black
*** Seed cavity compared to Carolina = S = same size; + = larger; - = smaller

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